Water Neutrality Offsetting Report

Site: Thistledown Cottage, Harbolets Road, West Chiltington
Prepared by: Neil Jaques
Approved by: Neil Jaques
Date: 16 September 2024

motion
84 North Street
Guildford
GU1 4AU

Tel: 01483 531300
www.motion.co.uk

1.0 Introduction

1.1 This report has been created to set out the proposed offsetting measures for the site at Thistledown Cottage, Harbolets Road, West Chiltington.

1.2 The NE Position Statement states that offsetting can be carried out by retrofitting existing properties with grey water recycling systems, rainwater harvesting and/or water reduction fittings.

1.3 The proposal is to offset the development against a water offsetting scheme in Crawley. A summary of the offsetting scheme can be seen in **Appendix A**. 40 Caburn Heights, Crawley (RH11 8QX) will be used to offset this development.

2.0 Offsetting Measures

2.1 40 Caburn Heights is a six-bedroom property with a maximum population of six people. Within the HMO there are two kitchen spaces, one kitchen used by three occupants and another kitchen used by the other three occupants. The bathrooms are split between the bedrooms. This means that one bathroom (Bathroom One) will be used by three of the occupants and the second bathroom (Bathroom Two) will be used by three other occupants.

Flow Survey

2.2 A flow survey was undertaken in April 2024 to determine the existing water usage of 40 Caburn Heights. A copy of the flow survey can be found in **Appendix B**.

2.3 Noting how the kitchens and bathrooms are used, the Part G calculation has been split into two. A Part G calculation for the water use by the first three occupants and a Part G calculation for the water use by the other three occupants. They all use the communal washing machine, therefore this will be the same across the calculations.

2.4 A Part G calculation following the flow survey on Bathroom One gives a water consumption of 145.78 litres per person per day, which includes an allowance of 5 litres per person per day for external water usage. This equates to 437.33 litres per day with a population of three.

2.5 A Part G calculation following the flow survey on Bathroom Two gives a water consumption of 146.07 litres per person per day, which includes an allowance of 5 litres per person per day for external water usage. This equates to 438.20 litres per day with a population of three. A copy of the Part G calculations for each bathroom can be found in **Appendix C**.

2.6 Following the flow survey, the total water consumption at 40 Caburn Heights is 875.53 litres per day

Water Reduction Measures

2.7 Flow restricting valves will be fitted to all basin taps and kitchen taps within the property to reduce the water consumption. The shower in Bathroom One and Two will be fitted with a flow restricting valve and the bath in Bathroom Two will be disconnected so that it will act as a shower tray.

2.8 A water calculation in accordance with Building Regulations Part G has been carried out and this confirms that the water use of the occupants using Bathrooms One can be reduced to 91.19 litres per person per day, which includes an allowance of 5 litres per person per day for external water usage. A copy of the Part G calculation can be found in **Appendix D** and is summarised in Table 6.1 below:

Fixture	Capacity/Flow Rate	Water Usage (l/p/day)
WC (Dual Flush)	6.0	8.76
WC (Dual Flush) Part	3.0	8.88
Taps (excluding kitchen)	3.5	7.11
Shower (where bath present)	8.0	44.80
Kitchen Sink	5.0	12.56
Washing Machine	6.00	12.60
	Total	94.71
	Normalisation Factor	0.91
	Total	86.19
	External Water Use	5.00
	Total	91.19

Table 6.1 – Offsetting Water Usage: Bathroom One

2.9 Using the Part G water consumption of 91.19 litres per person per day and a population of three, it is estimated that the water usage of Bathroom One will reduce to 273.56 litres per day.

2.10 A water calculation in accordance with Building Regulations Part G has been carried out and this confirms that the water use of the occupants using Bathroom Two can be reduced to 91.19 litres per person per day, which includes an allowance of 5 litres per person per day for external water usage. A copy of the Part G calculation can be found in **Appendix D** and is summarised in Table 6.2 below:

Fixture	Capacity/Flow Rate	Water Usage (l/p/day)
WC (Dual Flush)	6.0	8.76
WC (Dual Flush) Part	3.0	8.88
Taps (excluding kitchen)	3.5	7.11
Shower (where bath present)	8.0	22.40
Kitchen Sink	5.0	12.56
Washing Machine	6.00	12.60
	Total	94.71
	Normalisation Factor	0.91
	Total	86.19
	External Water Use	5.00
	Total	91.19

Table 6.2 – Offsetting Water Usage: Bathroom Two

2.11 Using the Part G water consumption of 91.19 litres per person per day and a population of four, it is estimated that the water usage of Bathroom Two will reduce to 273.56 litres per day.

2.12 A copy of the flow restricting valves to achieve the above water consumptions can be found in **Appendix E**.

2.13 Following the installation of the flow restricting valves at 40 Caburn Heights the total water consumption can be reduce to 547.12 litres per day.

Summary of Offsetting

2.14 40 Caburn Heights, baseline water usage was 875.53 litres per day, following the incorporation of the above measures the water usage will be reduced to 547.12 litres per day. This will provide 328.42 litres per day to offset the water use of other proposed developments to ensure they remain water neutral.

2.15 One litre of water per day is equal to one credit.

2.16 It is understood that the development at Thistledown Cottage requires 305 credits to remain water neutral and these credits will be purchased from the offsetting scheme at 40 Caburn Heights. The remaining 23.42 credits will remain in the credit scheme for use on other proposed developments.

Appendix A

Sussex Water Neutrality Offsetting Scheme Summary

SUSSEX WATER NEUTRALITY

Sussex Water Neutrality: Water Credits for Sustainable Development

Introduction to Sussex Water Neutrality (SWN)

- **Who We Are:** A premier provider specialising in securing and selling water credits to developers engaged in new constructions within water-stressed areas of West Sussex.

Our Expertise: Leveraging over 25 years in the local property market, facilitating sustainable development through innovative water neutrality solutions.







Understanding Water Credits

What Are Water Credits? Units that represent a daily reduction of one litre in water usage, recognised by relevant authorities to satisfy water neutrality in development projects.

Why Water Credits? Essential for developers to meet stringent environmental regulations and ensure their projects contribute positively to water sustainability.



Our Services...

Water Credit Procurement: We secure water credits from various landowners with verified water savings, ensuring a reliable supply for your development needs.

Option to Purchase: Developers are given the option to purchase the necessary credits, safeguarding their development approval process.







Option Fee and Pricing Structure

Option Fee: 35% of the total water credit cost is required upfront as an option fee to secure the exclusive right to purchase specified water credits within the option period.

Cost of Water Credits: £69 per unit, plus VAT. This price is inclusive of the **35% option fee** already paid, ensuring transparent and straightforward financial planning for developers.

Option Period: 18 months, with the possibility to extend under specific conditions, providing flexibility in your project timelines.

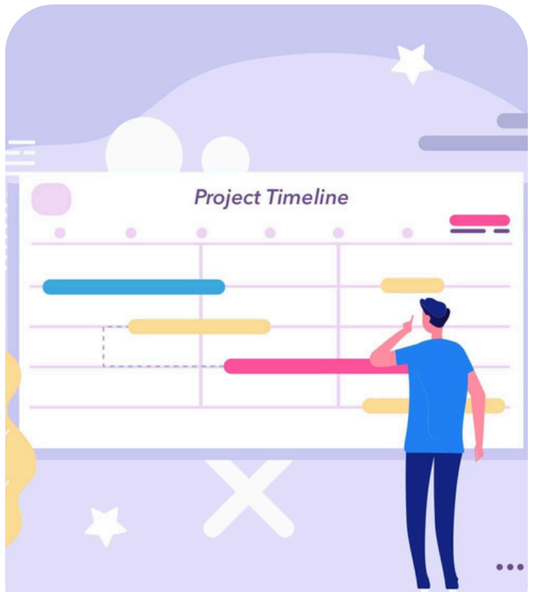
Benefits of Choosing SWN

Compliance with Local Regulations: Our credits comply fully with local planning permissions and statutory agreements.

Flexibility: The structured option period and potential for extension accommodate various project timelines and planning stages.

Expert Support: Full support in planning applications, including necessary documentation and coordination with landowners for water offset solutions.







The Process

Initial Consultation:
Understanding your development needs and the scale of water neutrality required.

Secure the Option:
Pay the option fee, which is part of the total cost of the water credits.

Planning and Implementation:
Assist in the planning application and implement the water offset solution.

Exercise the Option:
Complete the purchase of credits upon obtaining planning permission or entering into statutory agreements.









Why Developers Trust Us

Proven Track Record: Successfully provided water neutrality solutions across multiple projects.

Reliability: Guaranteed availability of credits through established agreements with multiple landowners.

Cost-Effectiveness: Transparent and all-inclusive pricing simplifies budgeting and financial planning for your projects.







Time to reach out....

- **Contact Us:** Start securing your water credits today to ensure your project meets all regulatory requirements.
- **Learn More:** Visit our website for more information on how our water credits can facilitate your development goals.

Kevin Shaw - 07872518110

Kevin@sussexwaterneutrality.co.uk

www.sussexwaterneutrality.co.uk



Appendix B

Flow Survey

Residential Flow Survey

23 Apr 2024 / Kevin Shaw @ 40 Caburn Heights

Complete

Score	14 / 14 (100%)	Flagged items	0	Actions	0

Site conducted	40 Caburn Heights, Crawley, RH11 8QX
Conducted on	23.04.2024 14:09 BST
Prepared by	Kevin Shaw @ 40 Caburn Heights
Location	40 Caburn Heights Crawley England RH11 8QX United Kingdom (51.10481538269468, -0.19669830264006113)
Water Meter Reading	
Type of Property	Flat
Number of bedrooms	6

Untitled Page	13 / 13 (100%)
Kitchen 1	2 / 2 (100%)
- Sink Taps - litres/minute VIDEO REQUIRED	Mixer 17Lpm
9EC972FA-6126-40D0-9353-FDC18F29CBD7-video.mov	
- Washing Machine Make & Model - litres/kg dry load PHOTO REQUIRED	No
- Dishwasher Make & Model - litres/place setting PHOTO REQUIRED	No
Utility Room/Kitchen 2	
Is there a utility room/second kitchen?	Yes
2 tenants use this kitchen	
- Washing Machine Make & Model - litres/kg dry load PHOTO REQUIRED	Yes
- Sink Taps - litres/minute VIDEO REQUIRED	Mixer 19Lpm
E13646B4-ADBC-4890-8898-116E9F274FA8-video.mov	
WC	1 / 1 (100%)
Is there a WC?	Yes
- Basin Taps - litres/minute VIDEO REQUIRED	Mixer 8Lpm
7F041F88-1BE4-4191-AE86-22989B339F97-video.mov	
- WC - litres PHOTO REQUIRED	Dual Flush
 Photo 1	
Bathroom 1	2 / 2 (100%)
- Shower Make/Model - litres/minute VIDEO REQUIRED	Thermostatic mixer 16.5Lpm
3 tenants use this bathroom	
10AF1782-D607-49D1-8070-B4B7DDBCCB3F-video.mov	
- Basin Taps - litres/minute VIDEO REQUIRED	Mixer tap 8Lpm
030EDE54-48B4-464C-901B-A242D0B7C855-video.mov	

- WC - litres PHOTO REQUIRED	Dual Flush



Photo 2

Is there a bath?	No
- Bathroom 2	1 / 1 (100%)
Is there an additional bathroom?	Yes

3 tenants use this bathroom

- Basin Taps - litres/minute VIDEO REQUIRED	Mixer 8Lpm

C65B4926-386C-4C4B-BA66-F3E003523AE7-video.mov

- Shower - litres/minute VIDEO REQUIRED	Thermostatic Mixer 15Lpm

B55CA421-D026-48DA-B33B-573B4B79CF34-video.mov

- WC - litres PHOTO REQUIRED	Dual Flush



Photo 3

Is there a bath?	Yes
- Bath and Taps - Measure Bath and litres/minute VIDEO REQUIRED	L1400 W550 D310 (to overflow)

Plan to remove bath



Photo 4

Bathroom 3	2 / 2 (100%)
Is there an additional bathroom?	No
Is there a bath?	No
Bathroom 4	2 / 2 (100%)

Is there an additional bathroom?	No
Is there a bath?	No
Bathroom 5	2 / 2 (100%)
Is there an additional bathroom?	No
Is there a bath?	No
- Bath and Taps - Measure Bath and litres/minute VIDEO REQUIRED	
Other Water uses	1 / 1 (100%)
Are there any other water uses?	No

Media summary



Photo 1



Photo 2

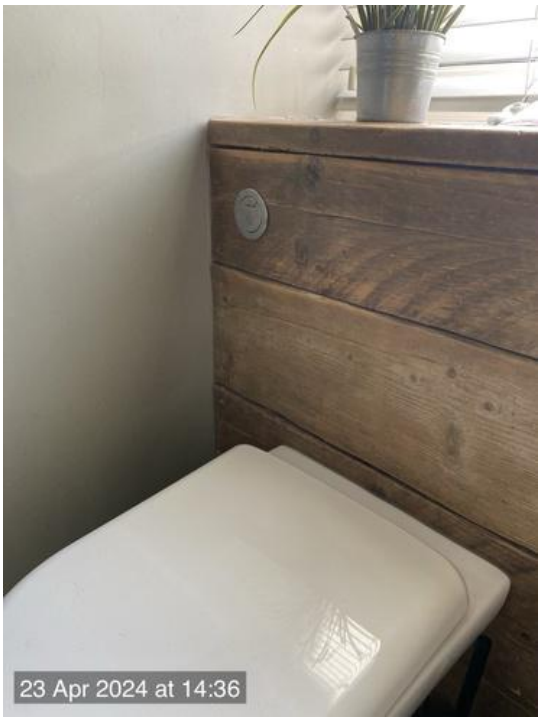


Photo 3

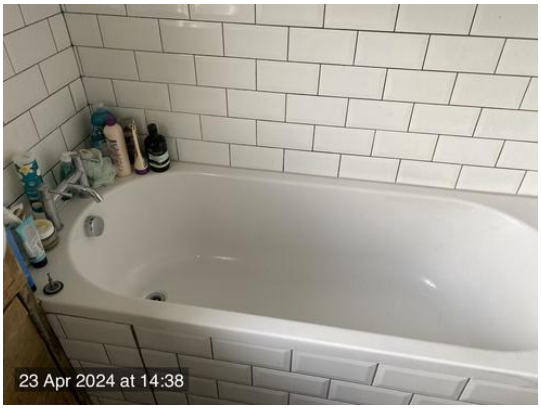


Photo 4

File summary

9EC972FA-6126-40D0-9353-FDC18F29CBD7-video.mov
E13646B4-ADBC-4890-8898-116E9F274FA8-video.mov
7F041F88-1BE4-4191-AE86-22989B339F97-video.mov
10AF1782-D607-49D1-8070-B4B7DDBCCB3F-video.mov

030EDE54-48B4-464C-901B-A242D0B7C855-video.mov
C65B4926-386C-4C4B-BA66-F3E003523AE7-video.mov
B55CA421-D026-48DA-B33B-573B4B79CF34-video.mov

Appendix C

Part G Calculation: Flow Survey

Part G Calculation - 40 Caburn Heights (Flow Survey)

Bathroom 1

Fixture	Capacity/Flow Rate	Use Factor	Fixed Use	litres/person/ day
WC (Single Flush)		4.42		0.00
WC (Dual Flush)	6	1.46		8.76
WC (Dual Flush) Part	3	2.96		8.88
Taps (excluding kitchen)	8	1.58	1.58	14.22
Bath (where shower present)		0.11		0.00
Shower (where bath present)		4.37		0.00
Bath Only		0.5		0.00
Shower Only	16.5	5.6		92.40
Kitchen Sink	17	0.44	10.36	17.84
Washing Machine	6.00	2.1		12.60
Dishwasher		3.6		0.00
	Total calculated use (litres/person/day)			154.70
Normalisation Factor				0.91
Total Water Consumption (CSH) (litres/person/day)				140.78
External Water Use				5.00
Total Water Consumption (Part G) (litres/person/day)				145.78

	Number of Units	Census	Population	Mains Water Usage
6-bedroom	1	3	3	437.33
Totals	1		3	437.33

Part G Calculation - 40 Caburn Heights (Flow Survey)

Bathroom 2

Fixture	Capacity/Flow Rate	Use Factor	Fixed Use	litres/person/ day
WC (Single Flush)		4.42		0.00
WC (Dual Flush)	6	1.46		8.76
WC (Dual Flush) Part	3	2.96		8.88
Taps (excluding kitchen)	8	1.58	1.58	14.22
Bath (where shower present)	239	0.11		26.29
Shower (where bath present)	15	4.37		65.55
Bath Only		0.5		0.00
Shower Only		5.6		0.00
Kitchen Sink	19	0.44	10.36	18.72
Washing Machine	6.00	2.1		12.60
Dishwasher		3.6		0.00
	Total calculated use (litres/person/day)			155.02
Normalisation Factor				0.91
Total Water Consumption (CSH) (litres/person/day)				141.07
External Water Use				5.00
Total Water Consumption (Part G) (litres/person/day)				146.07

	Number of Units	Census	Population	Mains Water Usage
6-bedroom	1	3	3	438.20
Totals	1		3	438.20

Appendix D

Part G Calculation: Retrofit

Part G Calculation - 40 Caburn Heights (Flow Restricting Valves)

Bathroom 1

Fixture	Capacity/Flow Rate	Use Factor	Fixed Use	litres/person /day
WC (Single Flush)		4.42		0.00
WC (Dual Flush)	6	1.46		8.76
WC (Dual Flush) Part	3	2.96		8.88
Taps (excluding kitchen)	3.5	1.58	1.58	7.11
Bath (where shower present)		0.11		0.00
Shower (where bath present)		4.37		0.00
Bath Only		0.5		0.00
Shower Only	8	5.6		44.80
Kitchen Sink	5	0.44	10.36	12.56
Washing Machine	6.00	2.1		12.60
Dishwasher		3.6		0.00
	Total calculated use (litres/person/day)			94.71
Normalisation Factor				0.91
Total Water Consumption (CSH) (litres/person/day)				86.19
External Water Use				5.00
Total Water Consumption (Part G) (litres/person/day)				91.19

	Number of Units	Census	Population	Mains Water Usage
6-bedroom	1	3	3	273.56
Totals	1		3	273.56

Part G Calculation - 40 Caburn Heights (Flow Restricting Valves)

Fixture	Capacity/Flow Rate	Use Factor	Fixed Use	litres/person /day
WC (Single Flush)		4.42		0.00
WC (Dual Flush)	6	1.46		8.76
WC (Dual Flush) Part	3	2.96		8.88
Taps (excluding kitchen)	3.5	1.58	1.58	7.11
Bath (where shower present)		0.11		0.00
Shower (where bath present)		4.37		0.00
Bath Only		0.5		0.00
Shower Only	8	5.6		44.80
Kitchen Sink	5	0.44	10.36	12.56
Washing Machine	6.00	2.1		12.60
Dishwasher		3.6		0.00
	Total calculated use (litres/person/day)			94.71
Normalisation Factor				0.91
Total Water Consumption (CSH) (litres/person/day)				86.19
External Water Use				5.00
Total Water Consumption (Part G) (litres/person/day)				91.19

	Number of Units	Census	Population	Mains Water Usage
6-bedroom	1	3	3	273.56
Totals	1		3	273.56

Appendix E

Fixtures and Fittings Specifications: Retrofit

Fixtures and Fittings - Part G Specifications

Item	Capacity/Flow rate	Overview
Basin Tap	3.5 litres/minute	Flow Restricting Valve
Shower	8 litres/minute	Flow Restricting Valve
Kitchen Sink	5 litres/minute	Flow Restricting Valve